FLORIDA AGRICULTURIST

Entered at the postoffice at DeLand, Florida, as second-class matter.

E. O. PAINTER PUBLISHING CO.,
Publishers and Proprietors.

Published every Wednesday, and devoted to the development of Florida and the best interests of her people.

Members of
THE FLORIDA PRESS ASSOCIATION.
Affiliated with the
NATIONAL EDITORIAL ASSOCIATION.

TERMS.

One year, single subscription.....$2.00
Six months, single subscription..... 1.00
Single copy..... .05

ADVERTISING RATES.

Rates for advertising furnished on application by letter or in person.

TO CORRESPONDENTS.

Articles relating to any topic within the scope of this paper are solicited.

We cannot promise to return rejected manuscript unless stamps are enclosed.

All communications for intended publication must be accompanied with real name, as a guarantee of good faith. No anonymous contributions will be regarded.

Money should be sent by Draft, Postoffice Money Order on DeLand, or Registered Letter, otherwise the publisher will not be responsible in case of loss. When personal checks are used, exchange must be added. Only 1 and 2 cent stamps taken when change cannot be had.

To insure insertion, all advertisements for this paper, must be received by 10 o'clock Monday morning of each week.

Subscribers when writing to have the address of their paper changed MUST give the old as well as the new address.

WEDNESDAY NOVEMBER 15, 1905.

Texas Fever.

In the Agriculturist of September 20 and 27 we published a bulletin from the Tennessee Experiment Station on the eradication of the Texas fever tick. We have just received Bulletin 84 of the Louisiana Experiment Station. The title is "Texas Fever," the sub-title is, "Being a General Summary of our Knowledge of the Subject to Date."

We wish that we could give the whole bulletin, but it would occupy too much space. A brief synopsis may be interesting.

The first page gives the various names by which the disease is known throughout this country and also in England, Australia and Italy. In England it is called "Red water," in Italy it is called "Bovine malaria."

The cause of the trouble is next discussed.

"The one and only cause of Texas fever is a minute or Micro-parasite belonging to the animal kingdom (bacteria proper, belonging to the vegetable kingdom), and the name given to it by biologists, as before stated, is the piroplasma bigeminum. It is a 'two-host' organism. That is, it lives during its life cycle in the bodies of two individual hosts, and does not seem to be able, naturally, to perpetuate itself in the absence of one or the other of them. These are, the bovine animal (ox, cow, etc.) and the common cattle tick, in this country. When transmitted into the circulation of a susceptible animal, it muitiplies in the blood, causing the destruction of the red cells; reduction in their number, and produces the different symptoms peculiar to the disease including high fever. When an animal recovers, however, its power of resistance become so strengthened against the effect of the parasite as, thereafter, so long as it is exposed to ticks, to remain healthy (immune) although harboring the parasite in its blood.

The common cattle tick after feeding upon the blood of such immune animal can, through the medium of the progeny of the female tick, transmit the micro-parasite into the circulation of a susceptible animal. And in this way the germ is perpetuated and the disease spread. But, if the two-hosts—the bovine animal and the tick—are separated as for example by destroying the tick, the infection cannot be disseminated, because the parasite cannot exist outside of the bodies of these host animals. In short, it requires the tick to extract the parasite, along with the blood, from an immune animal which has been previously exposed to ticks, or one suffering from the disease, and innoculate it into the blood of one that is susceptible, before the disease can be transmitted, except through artificial means, which are resorted to in the process of artificial immunization."

We have quoted this long explanation of the cause of Texas fever, because it is not generally understood.

The bulletin then goes on to state that up to 1889 it was not suspected that ticks had any connection with the Texas fever. Since then experiments have proven, conclusively, that the fever is not transmitted in any way except by ticks. Though several species of ticks are known in the United States only one, the Boophilus annulatus, the common cattle tick, has the ability to carry the disease germ. The ticks are dangerous only after feeding upon the blood of immune cattle or those suffering from Texas fever. The life history of the cattle tick is then given: Briefly, the female lays from 1500 to 3000 eggs which hatch out in from 20 to 30 days, in summer time, longer in cool weather. The young ticks do not move for from their birth-place but gather in clusters on the grass and attach themselves to the first passing animal. The life of the tick, after becoming attached to an animal, is usually only from three to five weeks but may be longer in cold weaother.

All southern cattle are not immune to Texas fever. It is stated that in Louisiana certain alluvial lands, subject to overflow and innundation are free from ticks and the native cattle remain free from the disease but are susceptible to infection when removed to tick infested pastures. Cultivated fields are free from ticks, so that those who keep cattle in pastures need not be annoyed by these destructive parasites if they will use the necessary precautions for a few months.

The symptoms of the fever are described very carefully. It appears that an animal may have the fever several days before any noticeable symptoms can be seen, the fact being shown only by the use of a thermometer. The first signs of trouble are dullness, loss of appetite, not chewing the cud, loss of flesh, staggering gait, hurried breathing, drooping of the ears, remaining apart from the herd, the passage of red colored urine, etc.

The appearance of the interior of the body on making a post-mortem examination, is given very carefully.

"The fat in the interior of the body has usually a decidedly bilious or yellowish tinge."

The heart is said to have a somewhat constant appearance of blood-staining, both of the covering of the heart outside and of the lining of the cavities, inside. The spleen is usually from two to four pounds, its normal weight and if cut open appears as a brownish-red mass, resembling "blackberry jam."

"The liver is the organ most seriously involved. It is very much enlarged and congested."

The gall bladder is usually found to contain a considerable quantity of gall but the appearance of it is very much changed, having been likened to the appearance of "chewed grass" and can be drawn out in long flat shreds.

The bladder may be found to contain from one to four quarts of high colored urine, the coloring due to the presence of coloring matter of the red blood cells mixed with the fluid.

So far as known, no specific treatment has been found for Texas fever.

In cases that were artificially produced, for the purpose of making an important animal immune, medicine is seldom required, occasionally a little quinine is used.

Whatever medical treatment is used should be given at the earliest possible moment after the disease has been recognized. The first thing to be done is to rid the animal effectually of ticks, both large and small, and place it in comfortable quarters which are absolutely tick-free.

"If the bowels are torpid, the condition may be relieved by the administration of a dose of epsom salts, combined with a moderate quantity of ground ginger, and made into a drench with about two quarts of tepid water. One to one and one-half pounds of the salts and a half to one ounce of the ginger should be a sufficient dose for an adult animal. Free access to plenty of pure drinking water should always be permitted. Quinine may be given in from one to two drachm doses, three or four times daily if the temperature of the animal remains high—say, from 103 degrees upward, with the reduction of the fever the dose of the quinine may be reduced."

"The administration of medicine, however, is by no means all that is necessary. Good nursing is 'half the battle.' The nourishment should be carefully looked to, and the patient's likes and dislikes, in this particular, closely observed, and, if possible, anticipated; easily digestible nutritious and tempting food being preferable. Owing to the immense destruction of the cell elements of the blood, and the consequent lowering of the vital forces which occurs in this disease, it stands to reason that the food should be nutritious, or, of what might be termed, the tissue-building class."

Next to the method of rendering cattle immune by inoculation is taken up and described very minutely. But as this operation cannot safely be performed by any one except an expert we will omit the directions. Something might be done at home if an imported animal could be kept in a place entirely free from ticks and then apply a few ticks, being very careful as to the number and begin treatment as soon as the temperature begins to rise, which will be in from eight to ten days.

Careful housing and nursing is quite as important during an attack of the fever when caused artificially as when brought on in the natural way.

It has been found that artificial innoculation does not produce complete immunity, therefore care must be used in exposing them to tick infested pastures.

It has been found that innoculated cattle do better in a tick infested pasture when running with native cattle than if by themselves. The rest of the bulletin is devoted to methods of getting rid of the ticks. But as this subject was thoroughly treated in the bulletin of the Tennessee Experiment Station it is not necessary to repeat it.

In making this synopsis of the valuable bulletin of the Louisiana Experiment Station, we have used quotation marks where we quoted paragraphs. But much of the time we have used the ideas partly in the original form and partly in our language.

A Remedy For White Fly.

Editor Florida Agriculturist:

Two years ago I mentioned in my report before the Horticultural that we had found a tree in one of our groves which had been cleaned of the sooty mould by common snails. This year they have spread to about 100 trees and are in other groves in our vicinity. In company with Prof. E. H. Sellards today we made an examination of the snails and their work. We found them on the tree trunks, on dead and live twigs, leaves and fruit. The tree often being cleaned has a bright clean trunk and glossy foliage as if varnished. The snails in their work seemed to be after the sooty mould, and are leaving a great deal of the brown and red fungi which preys upon the white fly. They seemed to have eaten off whatever coating or sooty mould had accumulated over these fungi. Some think they are destroying scale and white fly eggs. We did not find any live fly pupae on the lower part of the tree which we examined, but we decided this was owing to the great quantity of brown and red fungi present. This season has been an ideal one for the spreading of these fungi, being wet from the first of July to the first of October.

As the snail preys upon vegetable life and seems to take a particular fancy to the sooty mould we shall distribute them through our groves, for if we can by their aid clean our fruit and trees during the summer and early fall it will save the expense of spraying early in the season and washing the fruit when picked. Fruit cleaned by these snails will color 60 days earlier and make two sizes larger fruit. Now the question is, if they can be propagated in all the white fly districts or only near the coast on low lands. This question can be answered by some of our professors and I think the subject worthy of attention of our experiment stations.

Yours truly,
F. D. Waite.

Palmetto, Fla.

The Missouri Mule.

Why cannot Florida make a name for a stock of mules equal to that of the Missouri mule as described in an item in the Rural New Yorker?

The following remarks are credited to a Missouri Congressman:

"Why, there were enough mules in Missouri last year to have paid the whole $15,000,000 originally given for the Louisiana Purchase, and then to have paid the cost of the world's fair recently held in St. Louis besides. The Missouri mule is known the world over. His fame has spread to the remotest corners of the globe. No nation on earth dares go to war without first asking Missouri for a sufficient supply of mules. Battleships and 13-inch guns are made on either side of the Atlantic, but the Missouri mule grows only between the Mississippi River and the borders of Kansas. At his best he is nineteen hands high and weighs 1,900 pounds. I take off my hat to the Missouri mule, and stand at a respectful distance. The only animal with no ancestor of his own type and no hope of posterity of any type, he maintains his importance in war and agriculture."